



MATERIAL SAFETY DATA SHEET

MSDS NUMBER 5,120-6

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24 HOUR EMERGENCY ASSISTANCE		GENERAL MSDS ASSISTANCE	
SHELL: 713-473-9461 CHEMTREC: 800-424-9300		SHELL: 713-241-4819	
ACUTE HEALTH + 3	FIRE 3	REACTIVITY 0	HAZARD RATING LEAST 0 SLIGHT 1 MODERATE 2 HIGH 3 EXTREME 4
*For acute and chronic health effects refer to the discussion in Section III			



SECTION I	NAME
PRODUCT	ISOPROPYL ALCOHOL
CHEMICAL NAME	IPA, ISOPROPANOL, 2-PROPANOL
CHEMICAL FAMILY	ALCOHOL
SHELL CODE	31105

SECTION II-A	PRODUCT/INGREDIENT		
NO.	COMPOSITION	CAS NUMBER	PERCENT

1	ISOPROPYL ALCOHOL	67-63-0	100
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SECTION II-B	ACUTE TOXICITY DATA		
NO.	ACUTE ORAL LD50	ACUTE DERMAL LD50	ACUTE INHALATION LC50

1	5840 MG/KG (RAT)	13000 MG/KG (RABBIT)	12000 PPM (RAT) 8 HRS
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SECTION III	HEALTH INFORMATION
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THE HEALTH EFFECTS NOTED BELOW ARE CONSISTENT WITH REQUIREMENTS UNDER THE OSHA HAZARD COMMUNICATION STANDARD (29 CFR 1910.1200).

EYE CONTACT
MODERATELY IRRITATING TO THE EYES.

SKIN CONTACT
MILDLY IRRITATING TO THE SKIN.

INHALATION
MAY CAUSE MILD IRRITATION TO THE NOSE, THROAT AND RESPIRATORY TRACT AND MAY RESULT IN CENTRAL NERVOUS SYSTEM (CNS) DEPRESSION.

INGESTION
GENERALLY CONSIDERED TO HAVE A LOW ORDER OF ACUTE ORAL TOXICITY.

SIGNS AND SYMPTOMS
IRRITATION AS NOTED ABOVE. EARLY TO MODERATE CNS DEPRESSION MAY BE EVIDENCED BY GIDDINESS, HEADACHE, DIZZINESS, AND NAUSEA.

AGGRAVATED MEDICAL CONDITIONS
PREEXISTING SKIN, EYE AND RESPIRATORY DISORDERS MAY BE AGGRAVATED BY EXPOSURE TO IPA.

OTHER HEALTH EFFECTS

INTENTIONAL ABUSE, MISUSE OR OTHER MASSIVE EXPOSURE TO IPA MAY RESULT IN DIFFICULT BREATHING, NAUSEA VOMITING AND HEADACHE ACCOMPANIED BY VARIOUS DEGREES OF CNS DEPRESSION. COMA AND/OR DEATH ARE EVEN POSSIBLE.

SEE SECTION VI FOR ADDITIONAL HEALTH INFORMATION.

SECTION IV**OCCUPATIONAL EXPOSURE LIMITS**

NO.	OSHA		ACGIH		OTHER
	PEL/TWA	PEL/CEILING	TLV/TWA	TLV/STEL	
1	400 PPM		400 PPM	500 PPM	

50% ODOR RECOGNITION THRESHOLD IS 7.5 PPM.

SECTION V**EMERGENCY AND FIRST AID PROCEDURES****EYE CONTACT**

IMMEDIATELY FLUSH EYES WITH PLenty OF WATER FOR AT LEAST 15 MINUTES WHILE HOLDING EYELIDS OPEN. GET MEDICAL ATTENTION.

SKIN CONTACT

FLUSH SKIN WITH WATER. IF IRRITATION OCCURS, GET MEDICAL ATTENTION.

INHALATION

REMOVE VICTIM TO FRESH AIR AND PROVIDE OXYGEN IF BREATHING IS DIFFICULT. GET MEDICAL ATTENTION.

INGESTION

DO NOT GIVE LIQUIDS IF VICTIM IS UNCONSCIOUS OR VERY DROWSY. OTHERWISE, GIVE NO MORE THAN 2 GLASSES OF WATER AND INDUCE VOMITING BY GIVING 30CC (2 TABLESPOONS) SYRUP OF IPECAC.* IF IPECAC IS UNAVAILABLE, GIVE 2 GLASSES OF WATER AND INDUCE VOMITING BY TOUCHING FINGER TO BACK OF VICTIM'S THROAT. KEEP VICTIM'S HEAD BELOW HIPS WHILE VOMITING. GET MEDICAL ATTENTION.

NOTE TO PHYSICIAN

*IF VICTIM IS A CHILD, GIVE NO MORE THAN 1 GLASS OF WATER AND 15CC (1 TABLESPOON) SYRUP OF IPECAC. IF SYMPTOMS SUCH AS LOSS OF GAG REFLEX, CONVULSIONS OR UNCONSCIOUSNESS OCCUR BEFORE EMESIS, GASTRIC LAVAGE SHOULD BE CONSIDERED FOLLOWING INTUBATION WITH A CUFFED ENDOTRACHEAL TUBE.

SECTION VI**SUPPLEMENTAL HEALTH INFORMATION**

IN RATE: 1) LIVER AND KIDNEY ENLARGEMENT HAS BEEN SEEN AT LEVELS >6250 PPM IN DRINKING WATER. 2) ANEMIA HAS BEEN SEEN AT 12500 AND 25000 PPM IN DRINKING WATER.

SECTION VII**PHYSICAL DATA**

BOILING POINT: 180
(DEG F)

SPECIFIC GRAVITY: 0.79
(H2O=1)

VAPOR PRESSURE: 33 @ 68 DEG F
(MM HG)

MELTING POINT: -127
(DEG F)

SOLUBILITY: COMPLETE
(IN WATER)

VAPOR DENSITY: 2.1
(AIR=1)

EVAPORATION RATE (N-BUTYL ACETATE = 1): 1.4

APPEARANCE AND ODOR: COLORLESS, MOBILE LIQUID. MILD ODOR.

SECTION VIIIFIRE AND EXPLOSION HAZARDS
-----FLASH POINT AND METHOD:
53 DEG F -TCCFLAMMABLE LIMITS % VOLUME IN AIR
LOWER: 2 UPPER: 12

EXTINGUISHING MEDIA

USE WATER FOG, "ALCOHOL" FOAM, DRY CHEMICAL OR CO2.

SPECIAL FIRE FIGHTING PROCEDURES AND PRECAUTIONS

WARNING. FLAMMABLE. CLEAR FIRE AREA OF UNPROTECTED PERSONNEL. DO NOT ENTER CONFINED FIRE SPACE WITHOUT FULL BUNKER GEAR (HELMET WITH FACE SHIELD, BUNKER COATS, GLOVES AND RUBBER BOOTS). INCLUDING A POSITIVE PRESSURE NIOSH APPROVED SELF-CONTAINED BREATHING APPARATUS. COOL FIRE EXPOSED CONTAINERS WITH WATER.

UNUSUAL FIRE AND EXPLOSION HAZARDS

CONTAINERS EXPOSED TO INTENSE HEAT FROM FIRES SHOULD BE COOLED WITH WATER TO PREVENT VAPOR PRESSURE BUILDUP WHICH COULD RESULT IN CONTAINER RUPTURE. CONTAINER AREAS EXPOSED TO DIRECT FLAME CONTACT SHOULD BE COOLED WITH LARGE QUANTITIES OF WATER AS NEEDED TO PREVENT WEAKENING OF CONTAINER STRUCTURE.

SECTION IXREACTIVITY

STABILITY: STABLE

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

CONDITIONS AND MATERIALS TO AVOID:

AVOID HEAT, SPARKS, FLAME AND CONTACT WITH STRONG OXIDIZING AGENTS. DO NOT STORE OR HANDLE IN ALUMINUM EQUIPMENT AT TEMPERATURES ABOVE 120 DEG. F.

HAZARDOUS DECOMPOSITION PRODUCTS

CARBON MONOXIDE AND UNIDENTIFIED ORGANIC COMPOUNDS MAY BE FORMED DURING COMBUSTION.

SECTION XEMPLOYEE PROTECTION

RESPIRATORY PROTECTION

IF EXPOSURE MAY OR DOES EXCEED OCCUPATIONAL EXPOSURE LIMITS (SEC. IV) USE A NIOSH-APPROVED RESPIRATOR TO PREVENT OVEREXPOSURE. IN ACCORD WITH 29 CFR 1910.134 USE EITHER AN ATMOSPHERE-SUPPLYING RESPIRATOR OR AN AIR-PURIFYING RESPIRATOR FOR ORGANIC VAPORS.

PROTECTIVE CLOTHING

AVOID CONTACT WITH EYES. WEAR CHEMICAL GOGGLES IF THERE IS LIKELIHOOD OF CONTACT WITH EYES. AVOID PROLONGED OR REPEATED CONTACT WITH SKIN. WEAR CHEMICAL-RESISTANT GLOVES AND OTHER CLOTHING AS REQUIRED TO MINIMIZE CONTACT.

ADDITIONAL PROTECTIVE MEASURES

*TEST DATA FROM PUBLISHED LITERATURE AND/OR GLOVE AND CLOTHING MANUFACTURERS INDICATE THE BEST PROTECTION IS PROVIDED BY NITRILE, NEOPRENE AND NATURAL RUBBER GLOVES. USE EXPLOSION-PROOF VENTILATION AS REQUIRED TO CONTROL VAPOR CONCENTRATIONS.

SECTION XIENVIRONMENTAL PROTECTION

SPILL OR LEAK PROCEDURES

WARNING. FLAMMABLE. ELIMINATE ALL IGNITION SOURCES. HANDLING EQUIPMENT MUST BE GROUNDED TO PREVENT SPARKING. *** LARGE SPILLS *** EVACUATE THE HAZARD AREA OF UNPROTECTED PERSONNEL. WEAR APPROPRIATE RESPIRATOR AND PROTECTIVE CLOTHING. SHUT OFF SOURCE OF LEAK ONLY IF SAFE TO DO SO. DIKE AND CONTAIN. IF VAPOR CLOUD FORMS, WATER FOG MAY BE USED TO SUPPRESS; CONTAIN RUN-OFF. REMOVE WITH VACUUM TRUCKS OR PUMP TO STORAGE/SALVAGE VESSELS. SOAK UP RESIDUE WITH AN ABSORBENT SUCH AS CLAY, SAND OR OTHER SUITABLE MATERIAL; PLACE IN NON-LEAKING CONTAINERS FOR PROPER DISPOSAL. FLUSH AREA WITH WATER TO REMOVE TRACE RESIDUE; DISPOSE OF FLUSH SOLUTIONS AS ABOVE. *** SMALL SPILLS *** TAKE UP WITH AN ABSORBENT MATERIAL AND PLACE IN NON-LEAKING CONTAINERS; SEAL TIGHTLY FOR PROPER DISPOSAL.

WASTE DISPOSAL

UNDER EPA-RACA (40 CFR 261.21), IF THIS PRODUCT BECOMES A WASTE MATERIAL, IT WOULD BE IGNITABLE HAZARDOUS WASTE, HAZARDOUS WASTE NUMBER D001. REFER TO LATEST EPA OR STATE REGULATIONS REGARDING PROPER DISPOSAL.

SECTION XII

SPECIAL PRECAUTIONS

KEEP LIQUID AND VAPOR AWAY FROM HEAT, SPARKS AND FLAME. SURFACES THAT ARE SUFFICIENTLY HOT MAY IGNITE EVEN LIQUID PRODUCT IN THE ABSENCE OF SPARKS OR FLAME. EXTINGUISH PILOT LIGHTS, CIGARETTES AND TURN OFF OTHER SOURCES OF IGNITION PRIOR TO USE AND UNTIL ALL VAPORS ARE GONE.

WASH WITH SOAP AND WATER BEFORE EATING, DRINKING, SMOKING OR USING TOILET FACILITIES. LAUNDRY CONTAMINATED CLOTHING BEFORE REUSE.

DO NOT STORE OR HANDLE IN ALUMINUM EQUIPMENT AT TEMPERATURES ABOVE 130°F (54°C).

SECTION XIII

TRANSPORTATION REQUIREMENTS

DEPARTMENT OF TRANSPORTATION CLASSIFICATION: FLAMMABLE LIQUID
D.O.T. PROPER SHIPPING NAME: ISOPROPANOL

OTHER REQUIREMENTS:

DOT ID NUMBER = UN 1213 - GUIDE SHEET 26

SECTION XIV

OTHER REGULATORY CONTROLS

THIS PRODUCT IS LISTED ON THE EPA/TSCA INVENTORY OF CHEMICAL SUBSTANCES.

THE INFORMATION CONTAINED HEREIN IS BASED ON THE DATA AVAILABLE TO US AND IS BELIEVED TO BE CORRECT. HOWEVER, SHELL MAKES NO WARRANTY, EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THESE DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF. SHELL ASSUMES NO RESPONSIBILITY FOR INJURY FROM THE USE OF THE PRODUCT DESCRIBED HEREIN.

DATE PREPARED: OCTOBER 07, 1985

BE SAFE

READ OUR PRODUCT
SAFETY INFORMATION ...AND PASS IT ON
(PRODUCT LIABILITY LAW
REQUIRES IT)

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